Real Assets

THE CASE FOR LISTED INFRASTRUCTURE EQUITY:

A complementary allocation in an institutional investor's portfolio

Investing in both listed and private infrastructure equity can provide more complete exposure to the asset class.

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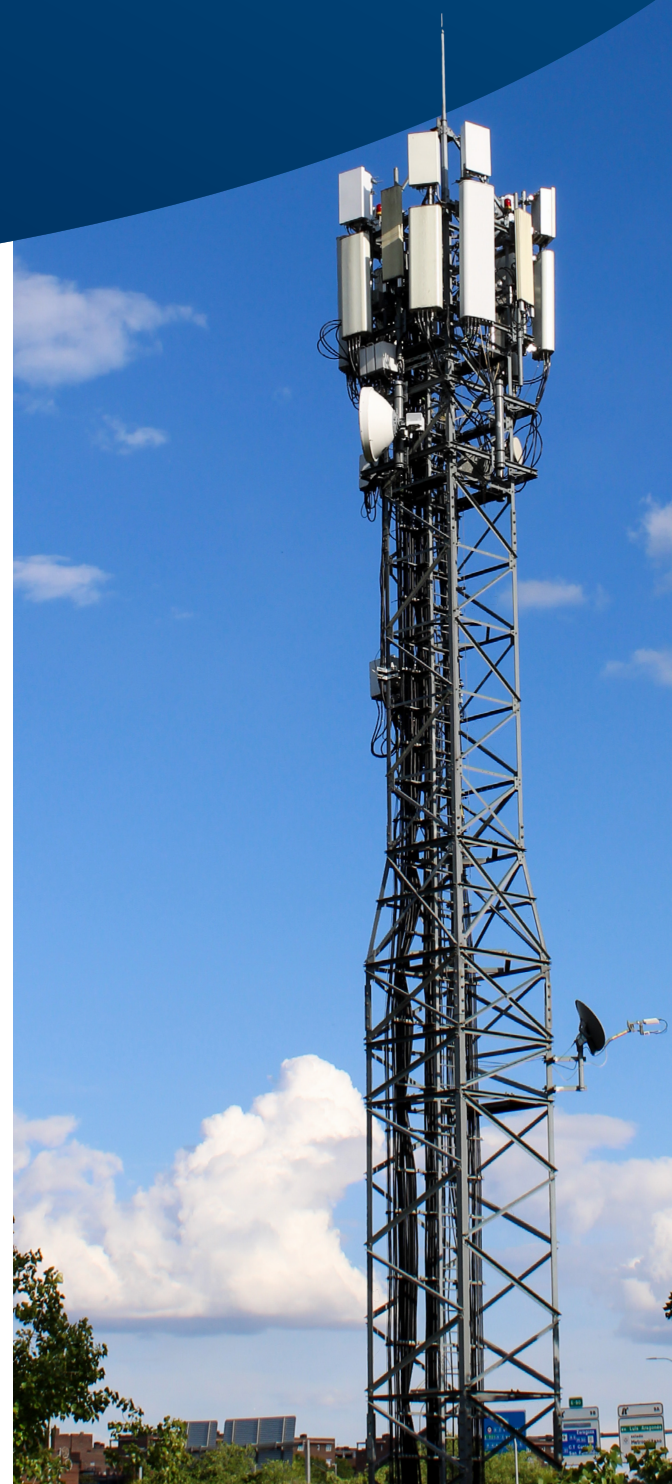


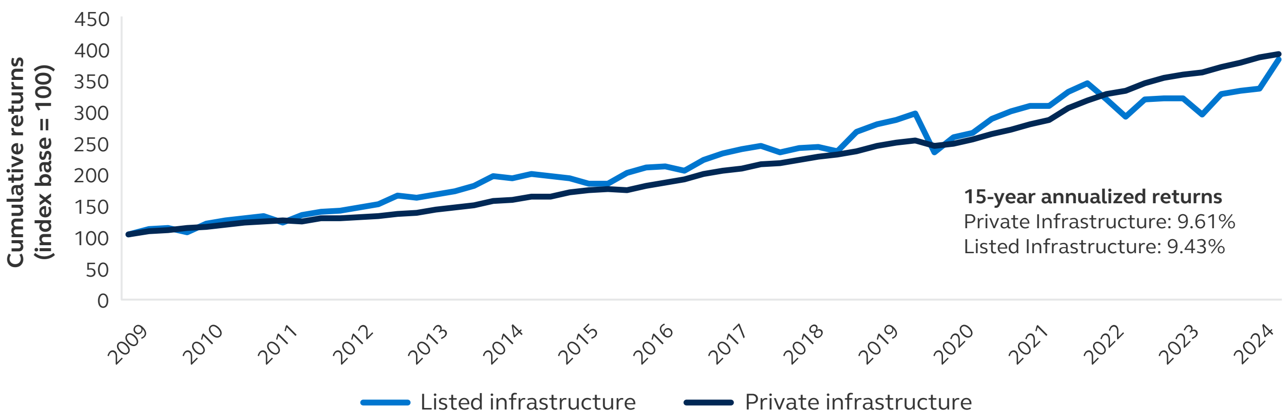
AT-A-GLANCE:

- Many investors have achieved infrastructure equity exposure exclusively through the private markets, yet the asset class can also be accessed through listed infrastructure equity strategies.
- The long-term return drivers of listed infrastructure equity are similar to those of private infrastructure equity, and long-term investment returns have been comparable.
- Listed infrastructure equity typically offers greater liquidity and diversification potential, lower fees, and lower minimum investment requirements relative to private infrastructure equity, offering favorable investment characteristics which at least partially offset its higher expected return volatility.
- Common use cases for listed infrastructure equity in an institutional investor's portfolio include portfolio completion or to access relative value opportunities.

Since its emergence as an asset class in the 1990s, infrastructure has increasingly been featured as a distinct allocation within institutional investment portfolios. Traditional infrastructure assets typically share specific attributes that support the delivery of steadier investment returns throughout an economic cycle. These businesses tend to provide services that are essential to our society and operate under regulated or contracted frameworks that provide investors with a high degree of revenue and cash flow visibility. Typically, income is also a meaningful component of investment returns.

Historically, many investors have achieved infrastructure equity exposure through the private markets, either by investing in private equity fund structures or into assets directly. This approach closely aligns with the role other private markets asset classes, such as private equity and private real estate, play in a portfolio. It is also possible to access the infrastructure asset class through listed equity strategies, however. The long-term return drivers of listed infrastructure equity tend to closely mirror those of private infrastructure equity, and as such, long-term investment returns have been comparable.

EXHIBIT 1: Historical returns of listed and private infrastructure equity have been comparable



As of 30 September 2024. Source: FactSet, Preqin, Principal Asset Management. Listed Infrastructure equity is represented by the FTSE Global Core Infrastructure 50/50 Index. The FTSE index launched in March 2015 and performance data provided prior to this date represents hypothetical back tested results. Please refer to the accompanying notes to performance for additional disclosures and important Information. Indices are unmanaged and do not take into account fees, expenses, and transaction costs and it is not possible to invest in an index. Private Infrastructure equity is represented by the Preqin Infrastructure Index which launched December 2007.

Balancing relative volatility with investment advantages

A key reason why many institutional investors have historically expressed a preference for private over listed infrastructure equity is due to the lower volatility typically ascribed to the former. We believe the higher return volatility of listed infrastructure should be considered alongside other investment characteristics that compares relatively favorably. For example, listed infrastructure typically offers greater liquidity and diversification potential, lower fees, and lower minimum investment requirements relative to private infrastructure equity.

EXHIBIT 2: Listed infrastructure equity offers several relatively favorable investment characteristics

Investment characteristic	Listed infrastructure equity	Private infrastructure equity
Liquidity	Very high	Low
Diversification	Very high	Low
Valuation transparency	Very high	Low
Cost of implementation	Low	High
Typical return composition	Growth emphasis	Income emphasis
Minimum investment size	Low	High
Operational influence	Very low	Low to very high
Strategic influence	Moderate	Low to very high
Fundamental volatility	Low	Low
Return volatility	Moderate to high	Low
Tactical opportunities	High	Low

Source: Principal Asset Management.

In addition, while volatility is often viewed as a proxy for risk, we believe it is important to draw a distinction between fundamental volatility (i.e. the volatility of revenues and cash flows delivered by an infrastructure business) and the volatility of returns. The volatility of returns can ultimately create opportunities for investors with a long-term horizon to add or increase exposure to quality infrastructure businesses that are trading at attractive relative valuations. Such dislocations are generally less common in the private markets, where buyers operate with locked-up capital and sellers are most often sophisticated asset owners with less proclivity to panic.

Further, we note that the inherent lag and smoothing effects in private markets return indices are likely significant drivers of the historically lower volatility seen from private infrastructure. This is best demonstrated when comparing the volatility of a range of private markets indices with the volatility of those same asset classes when accessed via the public equity markets.

EXHIBIT 3: Lower volatility in private markets not specific to infrastructure

	Private markets	Public markets
Broad equity	8.1%	16.6%
Real estate	9.6%	20.1%
Infrastructure	4.6%	13.8%
Venture capital	9.0%	N/A

Source: FactSet, Preqin, Principal Asset Management. Data is based on the earliest available returns from the Preqin private markets index series, December 31, 2007 through September 30, 2024. Listed infrastructure is represented by the FTSE Global Core Infrastructure 50/50 Index. Private markets data is represented by the respective Preqin private markets indices. Preqin indices referenced are the Private Equity excl. VC, Infrastructure, Real Estate, and Venture Capital components of the Private Capital Quarterly Index. Public markets equity is represented by MSCI All Country World Index. Public markets real estate is represented by the FTSE EPRA/NAREIT Developed index. Please see notes to exhibits on page 8 for further information.

In practice, institutions do not avoid all public equity investments simply because private equity offers materially lower volatility. Likewise, avoiding listed infrastructure equity on this basis alone may lead to missed opportunities to potentially enhance an overall infrastructure allocation.

Common uses for listed infrastructure equity among institutional investors

Listed infrastructure equity has the potential to serve a variety of strategic and tactical roles as one component of an overall portfolio. We commonly see the following use cases of the asset class within institutional investor portfolios:

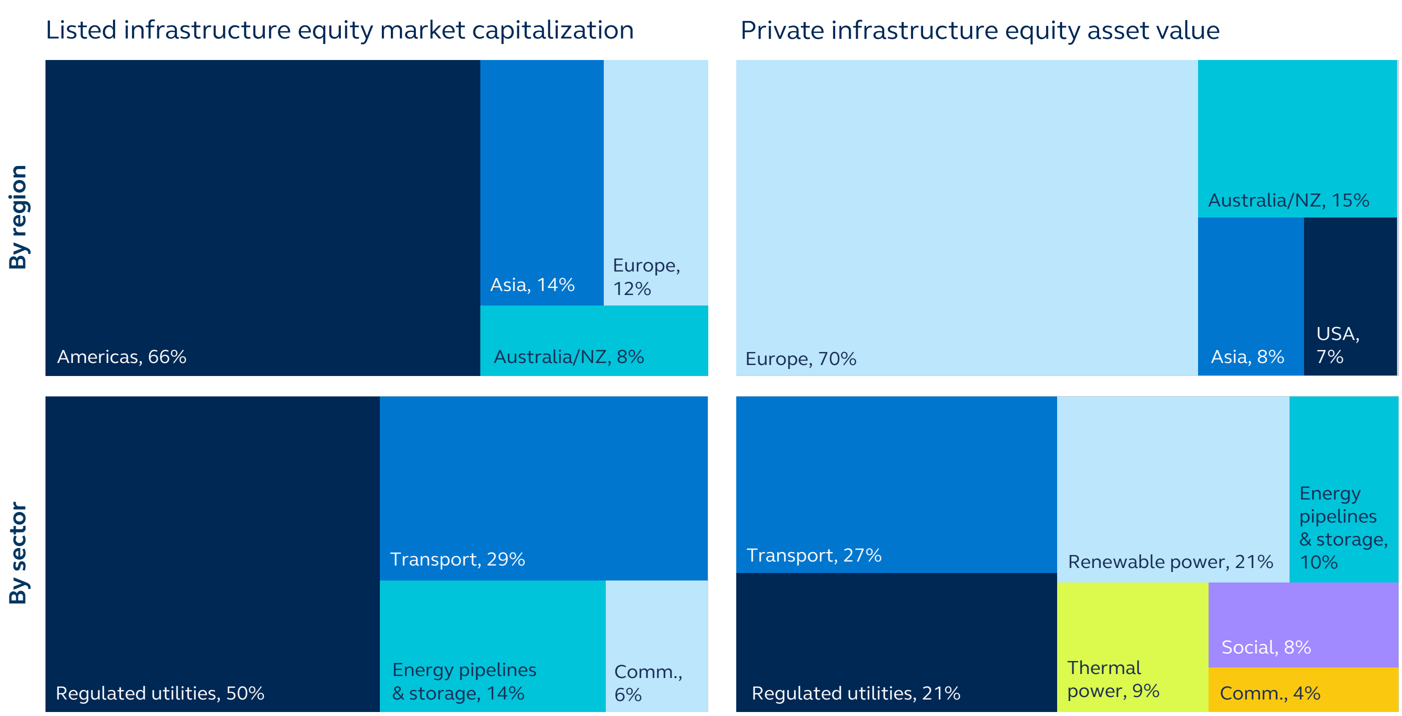
- Portfolio completion
- Timely implementation of a new or increasing infrastructure allocation
- Accessing relative value opportunities
- Enhancing a public equity allocation

Portfolio completion

Private and public infrastructure markets differ in the geographic and sector composition of asset value and in the relative maturity and quality of the underlying assets, so building a portfolio that combines both private and listed infrastructure assets can be one avenue for achieving a well-diversified infrastructure allocation. In addition, we often find that investors have substantial home country preference reflected in their private infrastructure allocations. U.S. public pension plans may even actively skew their allocation towards single state exposures, further contributing to the potential for listed infrastructure to complete an overall infrastructure allocation.

In general terms, the public infrastructure markets offer greater exposure to North America and to regulated utility companies, railroad operators, and cell phone tower operators compared to many private market portfolios. At least some of these differences in opportunity set are structural, as the regulatory structures and scale of many leading U.S. infrastructure companies make privatization en masse unlikely, in our view.

EXHIBIT 4: The geographic and sector composition of listed and private infrastructure equity markets are complementary



As of 31 December 2024. Source: FactSet, FTSE, Scientific Infra And Private Assets. Listed infrastructure represented by the FTSE Global Core Infrastructure 50/50 index and private infrastructure represented by the Infra300® Equity Index. Due to rounding, figures and percentages shown may not add to the totals or equal 100. May not reflect current allocations.

Further, many private equity infrastructure strategies focus on operational, or brownfield, assets with relatively minor capital investment requirements. In contrast, publicly traded infrastructure companies are typically heavy deployers of capital and are frequently developing new assets across their service territories. This is evident in the generally different approaches to renewables investment we see across the public and private markets, with private market strategies typically focused on investing in small portfolios of wind and solar assets that are already operational, while public companies are often directly involved in the development and construction of renewables assets. Large scale listed infrastructure companies may also offer positively differentiated business quality, profitability, and network effects relative to private equity operations which are typically smaller. We see the benefits of scale play out for listed infrastructure businesses across industries, such as renewables development and cell phone tower and airport operations. Finally, strategies targeting electric vehicle charging and data centers have been increasingly in vogue in private markets, and such strategies typically offer both higher risk and higher return than the regulated assets that comprise much of the listed infrastructure opportunity.

Timely implementation of a new or increasing infrastructure allocation

Allocations to infrastructure among institutional investors globally continue to increase, with the latest data pointing to average allocations at 5.5%, up 42bps from 2023.[1] Meanwhile, the time frame over which an institution can realistically build a diversified allocation to private infrastructure will likely be dependent on a variety of factors outside of its control, including transaction volumes, existing dry powder levels, the timing of capital calls and/or the length of queues at open-end funds. Investors may therefore consider implementing an initial allocation via outsized exposure to listed infrastructure and then adjusting that exposure over time as private investments are funded. Listed infrastructure assets are highly liquid, with average daily traded volume exceeding US$16 billion, which provides flexibility to institutional investors needing to make allocation adjustments.[2]

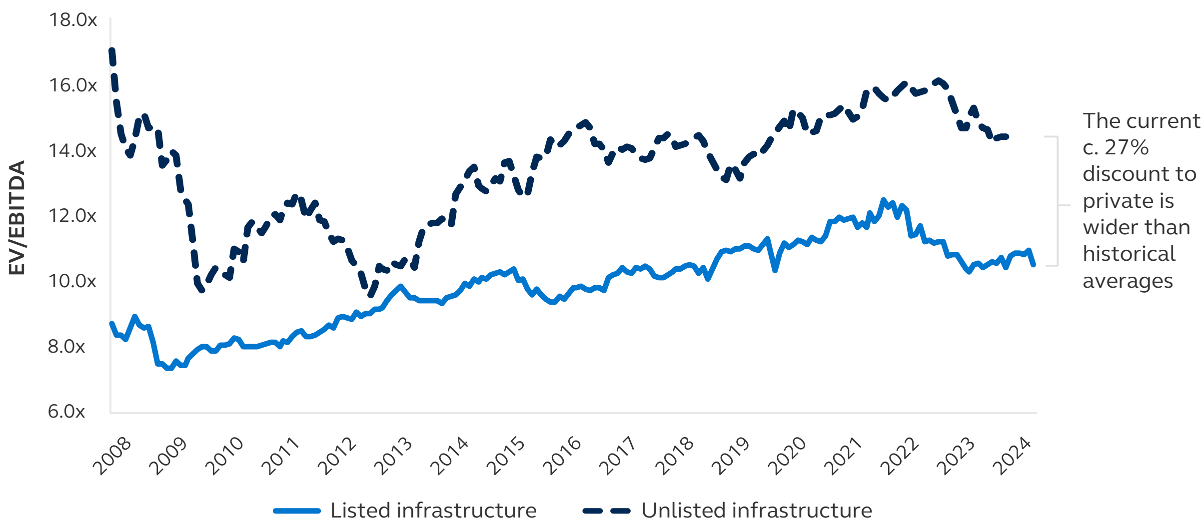
[1] Source: 2024 Infrastructure Allocations Monitor, Hodes Weill & Associates.
[2] Source: FactSet, Principal Asset Management. As of 31 December 2024.

Accessing relative value opportunities

As infrastructure investing continues to evolve, we believe relative value considerations could increasingly influence appetite for listed infrastructure equity. It is already commonplace for investors to compare spreads on private infrastructure debt with public corporate debt of comparable credit quality. Likewise, private real estate investors frequently reference the valuation signals provided by publicly traded real estate investment trusts (REITs), and the public REIT market has historically served as both an exit path for private equity real estate as well as an opportunity for accelerating privatization activity.

Historically, listed infrastructure equity has traded at a discount relative to private infrastructure equity transaction multiples. The current c. 27% discount is wider than historical averages. There are several explanations for why private infrastructure equity investors may have been willing to transact at a premium to listed valuations for such an extended cycle, ranging from challenging supply and demand dynamics in private infrastructure equity, to the ability of a private asset owner to employ higher leverage than is typically seen in the public markets.

EXHIBIT 5: Listed infrastructure equity has historically offered attractive relative value vs. private infrastructure equity



As of 31 December 2024. Source: FactSet, Macquarie Asset Management. Straight average enterprise value (EV) to EBITDA price multiples are used to measure valuations for listed infrastructure (FTSE Global Core Infrastructure 50/50 index) for comparability with private transaction data. Macquarie Asset Management private EV/EBITDA data is based on 1,138 data transaction multiples for deals that reached financial close between January 2008 and June 2024. The dataset is diversified by sector, including transport, utilities, digital infrastructure, renewables, energy, and diversified. Indices are unmanaged and do not take into account fees, expenses, and transaction costs. It is not possible to invest in an index.

Of course, private infrastructure equity fund managers have proven adept at recognizing and taking advantage of value in publicly traded infrastructure when and where it occurs. It is well understood that public equity markets tend to overshoot fundamentals, both to the upside and downside. Technical selling and short-term trading activity may further exacerbate disconnects between business fundamentals and company valuations, especially during periods of high macroeconomic uncertainty, creating relative valuation opportunities. We believe institutional investors have this same opportunity to capture relative value, albeit more directly—through investing in listed infrastructure equity themselves.

EXHIBIT 6: Recent privatization activity in listed infrastructure, 2024 to present

Company	Sector	Buyer	Premium paid	Offer date
Innergex Renewable Energy	Renewable Energy	CDPQ	58.0%	Feb 2025
Renewi	Waste	Macquarie	57.0%	Nov 2024
Malaysia Airports Holdings	Transportation	Global Infrastructure Partners/Various pension funds	37.0%	May 2024
Neoen	Renewable Energy	Brookfield	26.9%	May 2024
Allete	Utilities	Canada Pension Plan Investment Board/Global Infrastructure Partners	19.0%	May 2024
Encavis	Renewable Energy	KKR	33.0%	Mar 2024

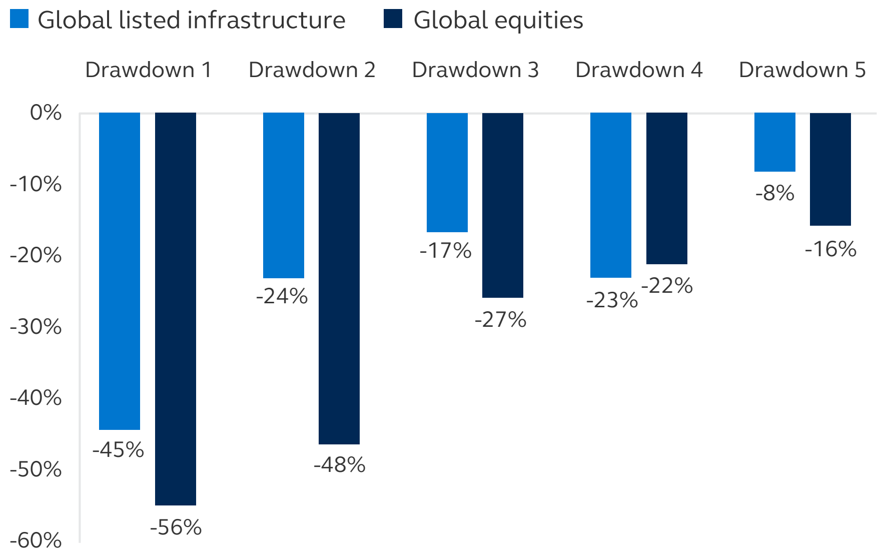
As of 28 February 2025. Source: Public news reports.

Enhancing a public equity allocation

Beyond its ability to add value to a broader infrastructure allocation, listed infrastructure also has the potential to deliver differentiated outcomes as a component of a global public equity allocation. Utilizing listed infrastructure within a public markets allocation—in the same way institutions have historically added targeted exposures to specific sectors and themes—may make the most sense for investors looking to diversify and add to the attractive characteristics of listed infrastructure.

An investment in listed infrastructure equity has the potential to deliver similar returns at lower volatility relative to global equities, while providing the capital appreciation and income growth potential that fixed income lacks. In market environments in which defensive positioning is warranted, portfolios that incorporate listed infrastructure equity have the potential to deliver outcomes that are differentiated to an even greater extent. Consider that listed infrastructure has meaningfully outperformed during the majority of global equities' top 5 max drawdown periods over the past few decades, demonstrating its downside risk mitigation potential as a defensive equity sector. This trend persisted in the most recent drawdown period in 2022.

EXHIBIT 7: Listed infrastructure drawdowns have typically been less than global equities



Date range	Sector
Drawdown 1	Oct 2007-Feb 2009
Drawdown 2	Mar 2000-Sep 2002
Drawdown 3	Dec 2021-Sep 2022
Drawdown 4	Nov 2019-Mar 2020
Drawdown 5	Feb 2018-Dec 2018

As of 31 December 2024. Source: FactSet. Top 5 drawdown periods going back to the earliest available data across asset classes (1995). Listed infrastructure is represented by a 50/30/20 blend of MSCI ACWI Utilities Index, MSCI ACWI Transportation, and the Alerian MLP Index through March 2015, and the FTSE Global Core Infrastructure 50/50 Index thereafter. The FTSE index launched in March 2015. Global equities represented by MSCI All Country World Index. Past performance is not indicative of future performance and should not be relied upon to base an investment decision. Index performance information reflects no deduction for fees, expenses, or taxes. Indices are unmanaged and individuals cannot invest directly in an index.

For more information on the role listed infrastructure can play in a portfolio relative to other public markets options, please refer to our complementary thought leadership paper, The Case for Global Listed Infrastructure: A missing piece in your portfolio.

Our experience shows that institutional investors take a wide range of approaches to covering listed infrastructure—its research oversight can fall under private, public, or alternative/real asset teams. We recommend that institutional investors consider cross-department collaboration when evaluating listed infrastructure equity strategies to ensure it doesn't become a missed opportunity in an overall portfolio.

FINAL THOUGHTS

Infrastructure has increasingly been featured as a distinct allocation within institutional investment portfolios, though to date, many investors have achieved infrastructure equity exposure exclusively through the private markets. While this approach has typically been justified by the lower volatility of private infrastructure relative to its public equity alternative, we believe institutional investors may be missing opportunities to enhance portfolio outcomes.

In our view, listed infrastructure equity has the potential to serve a variety of complementary roles as part of an overall infrastructure allocation, or alternatively can be utilized in a manner that seeks to enhance a public equity allocation. Regardless of how exposure is implemented, we believe listed infrastructure has the potential to deliver attractive risk-adjusted returns through a range of macroeconomic scenarios.

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Risk Considerations

Past performance is no guarantee of future results. Investing involves risk, including possible loss of principal. Infrastructure issuers may be subject to regulation by various governmental authorities and may also be affected by governmental regulation of rates charged to customers, operational or other mishaps, tariffs, and changes in tax laws, regulatory policies, and accounting standards. Foreign securities involve special risks, including currency fluctuation and lower liquidity. Some global securities may represent small and medium-sized companies, which may be more susceptible to price volatility than larger companies. Inflation and other economic cycles and conditions are difficult to predict and there Is no guarantee that any inflation mitigation/protection strategy will be successful. Asset allocation and diversification do not ensure a profit or protect against a loss.

Notes to exhibits

Indices are unmanaged and do not take into account fees, expenses, and transaction costs and it is not possible to invest in an index. The MSCI World Infrastructure Index was launched on Jan 22, 2008. The MSCI World Core Infrastructure Index was launched on Jan 16, 2015. FTSE Global Core Infrastructure 50/50 Index was launched on March 15, 2015. All performance presented prior to the launch date is back-tested performance. The back-test calculations are hypothetical and are based on the same methodology that was in effect when the index was officially launched. However, back tested data may reflect the application of the index methodology with the benefit of hindsight, and the historic calculations of an index may change from month to month based on revisions to the underlying economic data used in the calculation of the index. All back-tested index values for periods prior to the launch date of an index are provided for informational and educational purposes only.

Exhibit 3: Volatility calculated as annualized standard deviation of quarterly returns for Private Markets asset classes and annualized standard deviation of monthly returns for Public Markets asset classes, as consistent with industry standards.

Important information

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